

(a) one surface of a plastic material from monomers containing at least one structural element (A) derived from a carboxylic acid,

(b) a linker with at least one structural element (B) capable of establishing a hydrogen bond, and

C1
cont
(c) a substance coupled to the linker, wherein a stable interaction exists between the surface and the linker which comprises hydrogen bonds and which cannot be reversed by pH values in the range of from 2 to 13 or temperatures up to 60°C,

wherein the substance coupled to the linker comprises an anticoagulant.

2. (Amended) The interactive system according to claim 1, wherein the structural element (A) derived from a carboxylic acid is located in a side chain of the monomer.

3. (Twice Amended) The interactive system according to claim 1, wherein the plastic material is at least one polymer selected from the group consisting of a polymethacrylate, a polyvinylester, and copolymers thereof.

4. (Twice Amended) The interactive system according to claim 1, wherein the linker is selected from the group consisting of (poly)alkylene glycols, (poly)ethylene glycols, (poly)alkylene imines, (poly)alkylene amines and (poly)alkylene sulfides.

5. (Twice Amended) The interactive system according to claim 1, wherein the surface is a membrane, a porous or solid microparticle, a magnetic microparticle, a filter mat, a fibrous material, a spun material or a combination thereof, or a coating made from a natural or synthetic substance.

6. (Twice Amended) The interactive system according to claim 1, wherein the system is comprised within a capillary tube system, a filter for physiological liquids, a dialyzer, a physiological replacement fluid, an enzyme delivery system, an arthroplasty or vascular prosthesis, or an artificial organ.

C2
11. (Amended) The interactive system according to claim 1, wherein the substance coupled to the linker is selected from the group comprising a metabolically active enzyme, an antibiotic and a synthetic pharmacon.

Sub E1
C3
13. (Twice Amended) The interactive system according to claim 1, wherein the coupled substance further comprises an enzyme and a pharmaceutical composition.

14. (Twice Amended) A composition comprising an interactive system according to claim 1.

15. (Amended) The composition according to claim 14, wherein the composition is comprised within a type of food, preferably a dietary food or designer food.

16. (Amended) The composition according to claim 14, wherein the composition is a pharmaceutical composition.

C4
Sub E1
32. (Twice Amended) The interactive system according to claim 1, adapted for treatment of disorders selected from the group consisting of metabolic diseases, coagulation defects, viral, bacterial, mycotic infections, parasitic infections and malignant diseases.

Please add claims 34-38.

Sub E1
C5
34. (New) An interactive system comprising:
(a) one surface of a plastic material from monomers containing at least one structural element (A) derived from a carboxylic acid,
(b) a linker with at least one structural element (B) capable of establishing a hydrogen bond, and
(c) a substance coupled to the linker, wherein a stable interaction exists between the surface and the linker which comprises hydrogen bonds and which cannot be reversed by pH values in the range of from 2 to 13 or temperatures up to 60°C,
wherein the substance coupled to the linker is an anticoagulant selected from the group consisting of heparin, hirudin, directly acting antithrombins and prothrombin.

35. (New) An interactive system comprising:

(a) one surface of a plastic material from monomers containing at least one structural element (A) derived from a carboxylic acid,

(b) a linker with at least one structural element (B) capable of establishing a hydrogen bond, and

(c) a substance coupled to the linker, wherein a stable interaction exists between the surface and the linker which comprises hydrogen bonds and which cannot be reversed by pH values in the range of from 2 to 13 or temperatures up to 60°C,

wherein the coupled substance is a physiologically active substance.

36. (New) The interactive system according to claim 35, wherein the physiologically active substance is selected from the group consisting of a protein, a nucleic acid, a cellular signal substance, a partner of a biological or physiological affinity pair, a synthetic nickel-nitrilotriacetic acid (NiNTA) complex, a synthetically produced pharmacon, a synthetically produced active ingredient, and a marker for a biological or synthetic substance.

37. (New) The interactive system according to claim 36, wherein the protein is selected from the group consisting of antigens, antibodies, tumor markers, surface antigens, ligands, receptors, surface-active cell fragments of bacteria, viral proteins and immune messenger substances.

38. (New) The interactive system according to claim 36, wherein the marker is selected from the group consisting of a fluorescent or chemiluminescent substance, an expression sequence code (EST) and an enzyme.--.

REMARKS

Claims 1-6, 11, 13-16 and 32 and 34-38 are currently pending in the present application. Claims 7-10, and 12 have been canceled without prejudice. Claims 1-6, 11, 13-16, and 32 have been amended. Claim 1 has been amended to include subject matter of original claims 1 and from original claim 12. All remaining claims have been amended to place the claims in appropriate U.S. form. The amendments of claims 1-6, 11, 13-16, and 32 introduce no new matter and are supported at least in claims 1-6, 11-16, and 32 as originally filed.